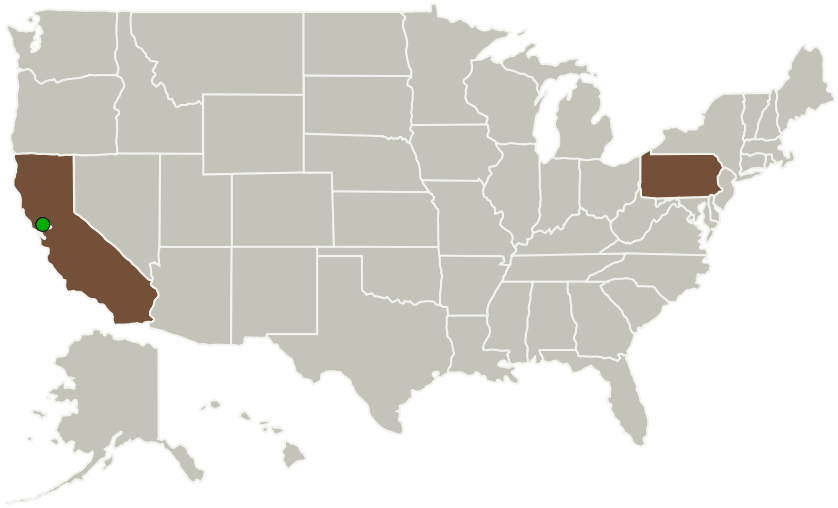
Novel Spider 3D Woven Seamless ADEPT Aero-Shell, Phase I

Completed Technology Project (2017 - 2017)

Project Introduction

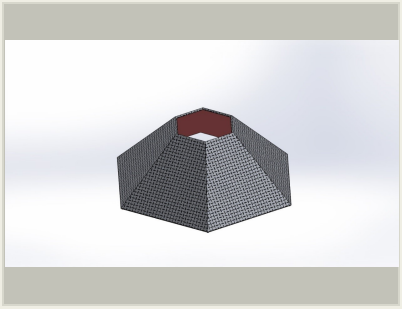
Bally Ribbon Mills will demonstrate the proposed novel weaving technique and produce a one-piece spider weave for the ADEPT aero-shell. NASA AMES has been working with Bally Ribbon Mills for several years on the Adaptable Deployable Entry and Placement Technology (ADEPT). To date the ADEPT test articles have been made with 3D woven flat broad cloth which is cut and sewn into the desired shape. BRM will use current equipment to demonstrate that a scaled down (or Sprite C sized) spider weave aero shell is feasible.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
Bally Ribbon Mills(BRM)	Lead Organization	Industry	Bally, Pennsylvania
Ames Research Center(ARC)	Supporting Organization	NASA Center	Moffett Field, California

Primary U.S. Work Locations	
California	Pennsylvania



Novel Spider 3D Woven Seamless ADEPT Aero-Shell, Phase I Briefing Chart Image

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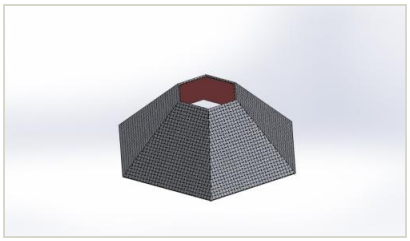
Images



Briefing Chart Image
Novel Spider 3D Woven Seamless ADEPT Aero-Shell, Phase I Briefing Chart Image
(https://techport.nasa.gov/image/134455)

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Organization:

Bally Ribbon Mills (BRM)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

Project Management

Program Director:

Jason L Kessler

Program Manager:

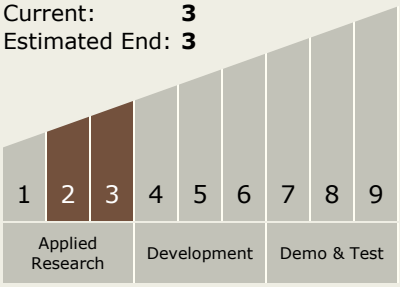
Carlos Torrez

Principal Investigator:

Curt Wilkinson

Technology Maturity (TRL)

Start: **2**
Current: **3**
Estimated End: **3**



Novel Spider 3D Woven Seamless ADEPT Aero-Shell, Phase I

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Technology Areas

Primary:

- TX09 Entry, Descent, and Landing
  - TX09.1 Aeroassist and Atmospheric Entry
    - TX09.1.2 Hypersonic Decelerators